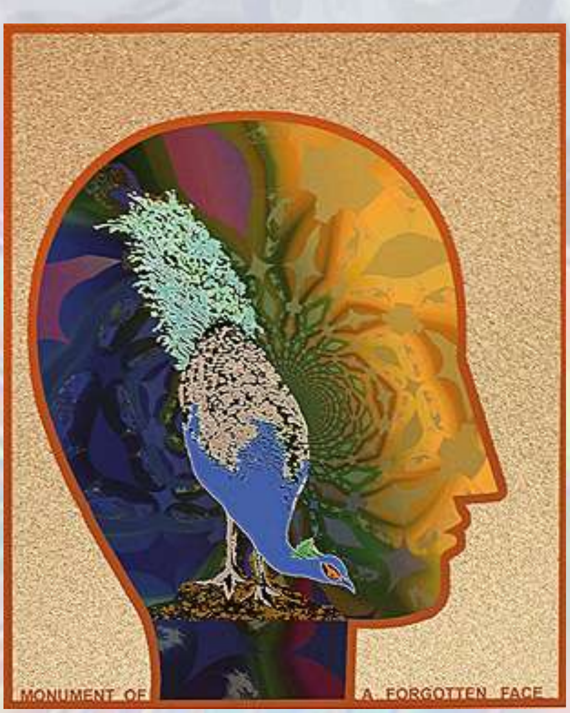
Hkkjrh; fMftVy isfVXl & ,d dEI;wVs'kuy nf"Vdks.k

(Indian Digital Paintings - A Computational Approach)



n;kyckx ,tqds'kuy bULVhV;wV ¼MhEM ;fuofllVh½] n;kyckx] vkxjk ls fp=dyk esa ih&,p-Mh- dh mikf/k gsrq

'kks/k&izcU/k dh laf{kIr :ijs[kk

'kks/k funs'kd
iks- jkfxuh jk;
v/;{k] Mªkbax ,.M isfVax foHkkx]
Mh-bZ-vkbZ-] n;kyckx

'kks/kkFkhZ
vfer dqekj tkSgjh
,l-Vh-,-&eYVhehfM;k
Mªkbax ,.M isfVax foHkkx

dyk ladk;] n;kyckx ,tqds'kuy bULVhV;wV ¼MhEM ;fuofllVh½]
n;kyckx] vkxjk&282 005

2016

Hkkjrh; fMftVy isfVXl & ,d dEI;wVs'kuy nf"Vdks.k

(Indian Digital Paintings - A Computational Approach)

'kks/k lidYiuk

dyk eu"; d Hkkok dk lf"V d ltu l gh 0;Dr djrh vk;h gA vkfndky l eu"; viuh Hkkoukvk dh vfHk0;fDr djrk vk;k gA tl&tl ekuoh; lonuk fodflr gkrh x;h] dyk Hkh ifjiDo gkrh xbA iÑfr }kjk inRr lkj :i vkj mu :ik }kjk gekj eu e mnc) fofp= Hkko ,o jlk d dykdkj fHkUu&fHkUu vkJ;k ;k vk/kkjk d ek/;e l fofHkUu dj.k&midj.kk dh lgk;rk l er djr gA fu"Bj ifjoru d lkFk ;x cnyrk g vkj mld lkFk&lkFk ijEijk,] 'kfy;k] Hkk"kk] :i lHkh ifjofrr gk tkr g ijUr vkRek vkj ân; dk er Li:i dHkh ugh cnyrkA ftl idkj jxk dk egRo thou d ltu l gvk] rc l jx viuk iHkRo cuk; g, gA mldk ifjoru rk gvk ijUr mldk e[; L=kr ugh cnykA

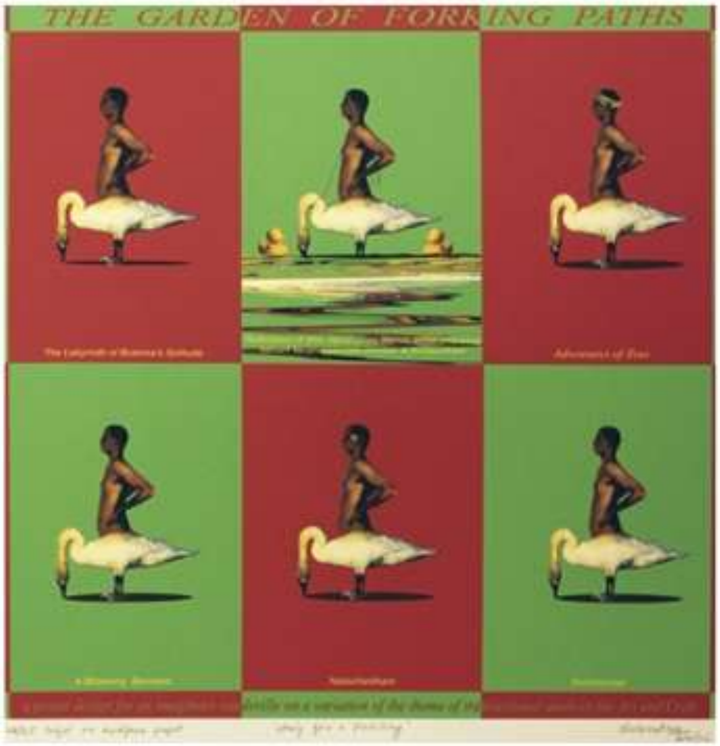
vc rd n'; dyk d vrxr dky] fopkj] rduhd o ek/;ek d ifjoru d dkj.k db idkj dh dyk 'kfy;k u tUe fy;k] tk viu&vki e ,d&nlj l vyx igpku j[krh gA dykdkj u blh ey :i dh ;ktuk dk fo"k; cukdj vkt og Hkkok dk 0;Dr dju oky rfydk ?kkrk dk uohuhdj.k dh ,lh ngyht ij [kMk dj fn;k g] tk fMftVy vkV d :i e gekj le{k iLrr gA vk/kfud dky e 20oh 'krkCnh d e/; e fMftVy dyk d vkxeu e QkVkxkQh dyk dk egRoi.k ;kxnku jgkA

Hkkjr e dEI;Vj dk ikjHk 1956 b- e gvkA Hkkjr dk iFke byDVkfud fMftVy dEI;Vj HEC-2M LFkkfir fd;k x;kA Hkkjr d dykdkjk u blh dyk midj.k d :i e cgr le; ckn viuk;kA vkt fMftVy dyk u yxHkx 60 o"k ij dj fy; gA bu o"kk d e/; fMftVy dyk db :ik e lkeu vkbA mnkgj.kLo:i&,Yxkfjne vkV] ,fue'ku vkV] ÝDVy vkV] fXyp o VkfMftVy vkV vkfnA ;gh ugh fMftVy dyk u ikjEifjd dykdkjk o dyk dk Hkh iHkkfor fd;k gA mnkgj.kLo:i lMkfj;fyTe dykokn fMftVy rduhdh iHkko dh gh nu gA

fp= l[;k&1 % fonbu n okEc] Jh vpu uk;j] feDl ehfM;k ,o fMftVy byLV'ku] lkbt&16 x 36 bp

oreku le; e Hkkjrh; dykdkj Hkh fMftVy ek/;e dk i;kx dj jg gA fookuInje Hkkjr d iFke fMftVy dykdkj eku tkr gA ie[k Hkkjrh; dykdkj tI i"ikekyk] ufyfuekfyfu] feVB Iu] vpu uk;j] T;kRIuk HkÍ] Hkiu dDdM] etukFk dker vkfn Hkh dyk Itu gr fMftVy ek/;ek dk i;kx dj jg gA bIh idkj Hkkjr e fMftVy vkV xyjh dk iFke i;kI cMknk d vferkHk vkj ufnuh xk/kh }kjk viuh IQjku vkV ikVuj xyjh ¼Saffron Art Partner Gallery½] vkV vMjxkmM dh LFkkiuk 5 viy] 1997 e dh x;h Fkh] tk 300 ox QhV e cuh gA bI xyjh e 2500 I Hkh T;knk fMftVy ifVx voykdukFk [kyh gA

fp= I[;k&2 ¼ vuVkbVYM] Jh inhi luxIrk] fMftVy fiUV] Ikbt&16 x 49 bp



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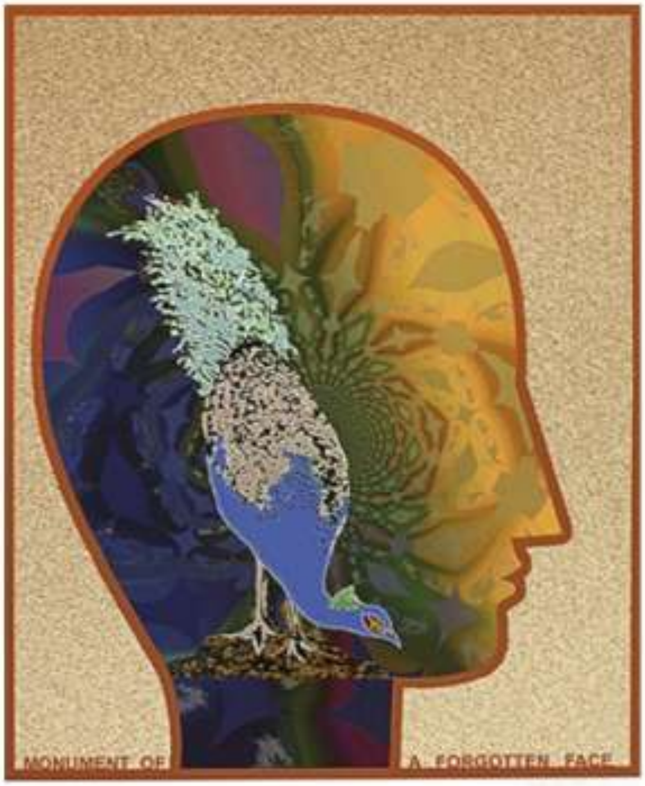
fp= l[;k&4 % xxk] Jh 'kkfgn nkrkokyk] bd vku QkVk iij] lkbt&24 x 36 bp

fp= l[;k&5 % vuVkbVYM] Jh lfpu dju] bdtV vku ,flM Ýh iij] lkbt&28 x 39 bp

fp= l[;k&6 % lkfyykD;k] Jh Hkiu [k[[kj] vkdkboy bdtV vku iij] lkbt&17 x 24 bp

fp= l[;k&7 % VkM ikVh] Jh uVjkt 'kek] vkdkboy bdtV vku iij] lkbt&16 x 22 bp



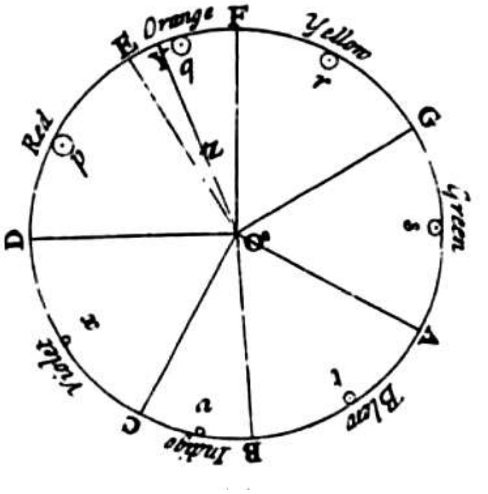
fp= l[;k&7 ¾ ekU;eV vkQ , Ql] Jh T;kfr HkVV] vkdkboy bdtV vku iij] lkbt&25 x 20-5 bp

bruk gh ugh fMftVy ek/;ek o dyk u egRoi.k dfj;j fodYi Hkh gekj le{k iLrr fd; gA vr% bu 60 o"kk e fMftVy dyk u n'; dyk {k= e egRoi.k Hkfedk fuHkkbi gA oreku e rk dEl;Vj u ,d Økfr mRiUu dj nh gA dEl;Vj d vykok mll lyXu gku oky ;=k dk Hkh fMftVy i.kkyh ij vk/kkfjr cuk fy;k gA bld vfrfjDr chloh 'krkCnh d vr e fMftVy dejk Hkh vfLrRo e vk;k] ftl fMftVy dyk d l tu e i;kx e yk;k tkrk gA dEl;Vj l lyXu gku oky xkfQd VcyV] ykbViu] Lduj] ekml] fiVj] lykVj e'khu bR;kfn gkMo;j d vykok dN fo'k"k idkj d lk¶Vo;l dk i;kx fMftVy dyk d l tu gr fd;k tkrk gA ftue ,Mkc QkVk'kki ¼Adobe Photoshop½] dkjy Mk ¼CorelDraw½] 3&Mh eDl ¼3-D MAX½] ,Mkc byLVVj ¼Adobe Illustrator½ vkfn ie[k gA ftudh lgk;rk l dykdkj viuh dykRed l>c> vkj i;kx/kferk l ijh n{krk o de le; e fMtkbu o fp=Ñfr dk l tu dj ik jg gA

dEl;Vj }kjk r;kj iR;d dykÑfr e Hkh ekfydrk d n'ku gkr g] D;kfd dEl;Vj dh viuh dkb ckf)d {kerk ugh gkrh] mld ihN Hkh 0;fDr&efLr"d dk; djrk gA doy ek/;e ¼Tool½ vyx gA ftu Tools dh vko';drk ,d fp=dkj dk gkrh g] og lHkh dEl;Vj d xkfQd fMtkbu d lk¶Voj nr gA dEl;Vj u vkt d dykdkjk d gkFkk e vur lEHkkoukvk okyh dph Fkek nh g] tl ifly] fofHkUu lkbtk d c'k] pkjdky] pkd] Ø;ku] ,;j c'k vkfn lHkh idkj d midj.k ftul fofHkUu iHkkok dk mRiUu fd;k tk ldrk gA dEl;Vj }kjk fofHkUu idkj d ikr ¼Texture½ iHkkoh rjhd l i;kx e yk; tkr g] tl idk'k d fofHkUu iHkko tl gok] o"kk] cQ] dkgjk

bR;kfnA fofHkUu idkj d ek/;e tl ty jx] ry jx] iLVy jx tl iHkko dh okLrfodrk d fy, mRiUu fd; tk ldr gA fMftVy vkV e vUrxr lk¶Vo;j dh lgk;rk l duokl o dkxt ij fiUV fd;k tkrk g rFkk Hkfo"; e mldk iujkoykdu Hkh fd;k tk ldrk gA cgr l dykdkj vkt dEI;Vj dh lgk;rk l vyx&vyx fp=k dk cukdj mue fofHkUu idkj d i;kx dj duokl ij fiUV djr gA mud }kjk ;g i)fr dykdkj d fopkjk dk vk/kfud :i e iuldyu dju dh lgk;rk l iLrr dju e cgr gh mi;kxh g] lh/k duokl ij dk; dju dh vi{kkA

dyk d vUrxr ,d vU; igy J0; dyk Hkh gA oreku e fMftVy ;x e J0; dyk o n"य कला का सहसम्बन्ध व्यक्ति के मस्तिष्क पर एक अमिट छाप छोड़ता है। दृ"; J0; dyk dk lxe विज्ञान की दृष्टि से सिनेस्थेसिया (Synesthesia½ d :i e igpkuk tkrk gA Synesthesia dyk ,frgkfld n"; lxhr] lxhr n";] J0; n"; dyk] lkj fQYe e cglonh i;kxk dk n"kkrk gA bl शोध परियोजना में Synesthesia dk dyk e ,d i;kx dk n"kku dk i;kl fd;k tk jgk gA ftld fy, /ofu o jx d lglEcU/k dh lVhdrk cgr egRoi.k gA lu 1704 d vkflVDl e U;Vu d jx pØ e jx o lxhr d Notes dk lglEcU/k fn[kk;k gA rHkh l jx&/ofu d lglEcU/k dk fl)kUr Lohdkj fd;k x;k gA



Vladimir Nobokov ,d ifl) :lh&vefjdh miU;kldkj FkA bUgku db miU;klk e Synesthesia d बारे में स्पष्ट रूप से वर्णन किया है। इसी प्रकार egku :lh fp=dkj Wassily Kendinsky vkj Mp fp=dkj Piet Mondrian u viu fp=k e Nfo&lxhr vu:irk d lkFk i;kx fd;k gA Wassily Kendinsky u fp=dyk e cgr gh u; i;kx fd;A ftle og lQy Hkh g,A blh idkj dN fon"kh ledkyhu dykdkjk tl vefjdh efgyk fp=dkj Carol Steen ,d lQy fp=dkj] y[kd vkj Synesthete d :i e ifl)h ikIr dhA bld dk; e Synesthesia dk lQy i;kx fd;k x;k gA blh idkj fon'kh QkVkxkQj ,o fp=dkj Marcia Smilack u Reflectionist Art d ek/;e l Synesthesia dk mi;kx viuh dykÑfr;k dk cuku e fd;k gA

fMftVy Økfr dk dykdkj] dykÑfr;k rFkk dyk txr ij cgr iHkko iMk rFkk fMftVy dyk ek/;ek o rduhdk u Lo; n';dyk {k= e egRoi.k Hkfedk fuHkkbl gA fMftVy rduhd u u

fQYe fp=dyk vfirq efrf'kYi] LFkkiR;] QksVksxzkQh] xzkfQDl] fizUV vkfn n'; dyk i{kksa dks Hkh viuh <x ls Lo; esa lekfgr fd;k gAS

lkfgR;koyksdu

eS sj 'kks/k dk fo"k; ^^Hkkjrh; fMftVy isfUVXl & ,d dEI;wVs'kuy nf"Vdks.k (Indian Digital Paintings - A Computational Approach)** gAS viu 'kks/k fo"k; ls lEcfU/kr eu db Hkkjrh; o fons'kh iLrdksa i<h ftuls e>s ej fo"k; ij dk;Z dju e lgk;rk feyhA ftuea Margot Lovejoy dh Digital Currents: Art in the Electronic Age, 2014 iLrd e dyk e vk/kfud rduhd d i;ksx dk v/;;u tkukA blh d lkFk gh nljh iLrd ;kxUn irki flg dh Hkkjr e dEI;Vj ;x dh 'k:vkr] dEI;Vj lpkj lpuk] 2010 e dEI;Vj }kjk xzkfQDl dk;Z dk fooj.k feykA ftl e Hkkjr e fdl idkj dEI;Vj }kjk xzkfQDl dk;Z dk bfrgkl jgk g d lEcU/k e tkudkjh ikIr g;hA dEI;Vj dh xzkfQDl dk;Z e D;k D;k fo'k"krk, g d lEcU/k e fo'k"k :i ls idk'k Mkyk x;k gAS dkjy dkjikj'ku ¼Corel Corporation½ rFkk ,Mkc flLVEl budkjikjVM ¼Adobe Systems Incorporated½ d fofHkUu idkf'kr lkfgR; ls eus fMftVy ifVx dh rduhd gr i;kx gksu oky ek/;ek ¼Tools½ d lEcU/k e tkudkjh ikIr g;hA 'kks/k dk;Z ls lEcfU/kr fofHkUu fon'kh dykdkjk d dk;k d idkf'kr fofHkUu lkfgR; ls Hkh lgk;rk feyhA fMftVy ifVx dk cgrk;r e dk;Z fon'kh dykdkjk }kjk fd;k tkrk g vr% mud }kjk fd;s x;s dk;k dh bUVjuV ij miyC/krk u bl 'kks/k fo"k; dk p;u dju e ie[k :i ls lg;ksx fd;kA

dyk d ifji{; e jx o /ofu d lglEcU/k dk le>u d fy, n";&JO; dyk ls lEcfU/kr lkfgR;k dk voyksdu dju dk i;kl fd;kA ftl e lu 1704 e U;Vu d jx pØ dk le>u e v/;;u fd;kA ogh Leonid Sabaneev and S.W. Pring }kjk tykb lu 1929 e jfpr o vkDlQkM ;fuofIlVh iIl l idkf"kr iLrd The Relation between Sound and Colour के पृष्ठ संख्या 266–277 ij mfYyf[kr /ofu o jx vFkok idk"k d lglEcU/k e fn; x; rF;k dk v/;;u fd;kA blh lEcU/k e ik- jfo HkVukxj] lxhr foHkkx] Mh-b-vkb-] ik- Mh- Hkxoku nkl] bthfu;fjx ldk;] Mh-b-vkb- o Jh dynhi pMMk] byDVkfud lxhrdkj] ub fnYyh dk lk{kkRdkj fd;kA ftl e eu ;g ik;k fd oreku le; e n"; o JO; dyk dk lEcU/k cgr gh lVhd idkj ls fl)kUrk d vk/kkj ij dyk d vUrxr i;kx e yk;k tk jgk gAS

e dEI;Vj xzkfQDl d {ks= e fiNy 20 o"kk ls fofHkUu ek/;ek e dk;Z dj jgk g vr% ej }kjk fd; x; dk;k u e>s bl fo"k; dk puu e ifjr fd;kA bl fo"k; ij 'kks/k v/;;u d fy, eu ub fnYyh e iR;d 2 o"kk e vk;kftr vkyy bf.M;k Qkbu vkVl ,.M ØkQ¶Vl lkslkbVh }kjk vUrjk"Vh; Lrj ij vk;kftr dh tku okyh in'kuh dk voyksdu Hkh fd;k rFkk mlesa Hkkx Hkh fy;k ftlesa ejk ,d dk;Z lu 2013 e inf'kr o idkf'kr Hkh gvkA bl fo"k; ij fofHkUu lxkf"B;k e fo'k"kKk }kjk iLrr 'kks/k i=k dk v/;;u dju dk lkHkkX; Hkh ikIr gvk ftlesa MkO ch-lh- fyfVy] y[kuÅ vkVl dkyt(ik- fdju ljuk] cuLFkyh fo'ofo|ky;(ik- jkfxuh jk;] Mh-b-vkb-] n;kyckx] vkxjk(vkfn ie[k gAS

fo"k; p;u d nkjku eu dN ie[k ledkyhu dykdkjk tls ik- tjxj vgen tgj] tkfe;k fefy;k bLykfe;k] ub fnYyh(ik- nhid duy] ,e-,l- fo'ofo|ky;] cMknjk(ik- ,l-,u- ykfgjh]

fnYyh vkVl dkyst] ubl fnYyh(ik- 'ky pk;y o Jh vkdk'k pk;y] mn;iqj(ik- ch-ih- dkEckst] ngjknwu(Jh funhi jk;] vkxjk(ik- jhrk irki] jktLFkku fo'ofo|ky;] t;iqj(ik- fdju lqjuk] cuLFkyh fo'ofo|ky;] jktLFkku(Mk- vydk p<<k] vkj-th- fMxh dkyst] ejB(ik- fot; lDlsuk] lj t-t- Ldwy vkQ vkVZl] eqEcbZ(fel Lufgy rkEcyokMdj] lj t-t- Ldwy vkQ vkVZl] eqEcbZ(Jh ruohj vtlh] bf.M;k Qkm.Ms'ku Qkj n vkV] cxywj(Jh vfuy fjlky flag] v/;{k o Mk- ch-d- flUgk] lfpo] QMj'ku vkQ bf.M;u QkVksxzkQh] y[kuÅ(Jh yfyr jktkjk] okbYM ykbQ QkVksxzkQj] vkxjk vkfn d lkFk lk{kkRdkj dj fo"k; dh egÙkk dk le>u dk i;kl fd;kA bl fo"k; ij ej }kjk io e iLrr o idkf'kr 'kk/k i=k d v/;;u u Hkh lgk;rk inku dhA 'kk/k dk; l lEcfU/kr db jk"Vh; o vUrjk"Vh; dykdkjk d o fo"k; l lEcfU/kr oclkbV] lekpkj i= o if=dk,] dVykx] CykXl o ifVXl l Hkh fo"k; d ikFkfed v/;;u e lg;kx feykA fo"k; p;u d nkjku e cuLFkyh fo'ofo|ky; d iLrdky; rFkk vky bf.M;k Qkbu vkVl ,.M ØkQ¶Vl lkslkbVh] ubl fnYyh e Hkh Hke.k fd;kA

ifjdYiuk

eu"; dh dykRed fp=l turk dk fMftVy ek/;e l iLrr dju d nf"Vdk.k gr 'kk/k d y{; ,o m)'; iklr dju d fy, ifjdYiuk fuEu g&

- Hkkjr e oreku le; e ifVx d dEI;Vjkbt'ku ¼Computerization½ dk v/;;u djuk o mle vku okyh leL;kvk dk <<ukA
- ifVx d dEI;Vjkbt'ku ¼Computerization½ d lkFk tMh leL;kvk dk v/;;u djuk o dykdkjk dh lgHkkfxrk dk v/;;u djukA
- fMftVy ifVx d {k= d ekud dk jk"Vh; o vUrjk"Vh; Lrj ij c<kok nu gr miyC/k lHkkoukvk dk ryk'kukA
- Hkkjrh; dykdkjk d n';kRed ltu d igyvk dk c<kok nu rFkk n";&J0; dyk d lglEcU/k dh egÙk dk crkuk rFkk mud dk'ky dk vkj vf/kd lokju rFkk cgrj lketL; cBku gr lk¶Vo;j] gkMo;j o fofHkUu ek/;ek }kjk mud vk/kfud rduhdh {k= dk ln< djukA
- fMftVy ifVx dh dyk txr e t:jr dk mi;kx dju d fy, fofHkUu fodkl dk;Øek dk cuku dk i;kl djukA

y{; ,o m)';

vk/kfud dyk ifjo'k e fp=dyk vud n'kh&fon'kh vkUnkyuk l xtj dj ,d u; :i e iLrr g;h gA ;g lnh oKkfud g] vkt ekuo lH;rk dk xfr inku dju e dEI;Vj r= dk lokf/kd ;kxnku gA dyk {k= e dEI;Vj dh lgk;rk l dykdkj viuh dykRed l>c> vkj i;kx/kferk l ijh n{krk o de le; e fMtkbu o fp=Ñfr dk ltu dj ik jg gA dN ijEijkoknh dykdkjk u fMftVy vkV dk lngkRed nf"V l n[kk] ijUr vk/kfud okrkoj.k e rth l cnyrh bu ifjfLFkfr;k d chp fMftVy ifVx Hkh viuh rjg dk dykRed dk; g ftld ek/;e

l dykdkj dgh Hkh cB dj viu efLr"d e mRiUu fopkjk o dykÑfr;k dk l tu cMh gh lgtrk d lkFk dj ldrk g vkj bl blh :i e vyx ekU;rk nuh pkfg,A blh lUnHk dk lKku e j[kr g, Hkkjrh; fMftVy ifVx {k= e dEI;V'kuy nf"Vdk.k d vk/kkj ij vk/kfud rduhd d i;kx d ek/;e l fo'o ifji{; e ,d mfpr LFkku nu dk v/;;u djuk ej bl 'kk/k dk; dk m)'; gA

pj

1- fMftVy ifVx {k= d ie[k Hkkjrh; dykdkjk d dk;

2- dyk ohfFkdk o in'kfu;k

3- Lo; }kjk fd;k x;k dk;A

dk;l i.kkyh

¼v½ vulU/kku vfHkdYi

^^Hkkjrh; fMftVy ifVXl & ,d dEI;V'kuy nf"Vdk.k**

ie[k fMftVy ifVx dykdkjk d dk;k e fMftVy rduhd dk i;kx] lk¶Vo;j e miyC/k dj.k ¼Tools½ rFkk vk/kfud rduhd dk i;kx

¼c½ inÙk ldyu

¼i½ ikFkfed & Hkkjrh; fMftVy ifVXl] lk¶Vo;j e miyC/k dj.k ¼Tools½] rFkk fofHkUu llk/kuk dh vk/kfud rduhd dk i;kx

¼ii½ f}rh;d & fMftVy ifVx {k= e ijLÑr Hkkjrh; dykdkjk d lk{kkRdkj] iLrd] idkf'kr i=&if=dk,] lekpkj i=] dVykx] oclkbV] CykXl] 'kk/k fun'k ,o fopkj&foe'k

¼l½ ifrn'k

fMftVy ifVx {k= d ie[k Hkkjrh; dykdkjk dh Ñfr;k

¼n½ lk{kkRdkj

xkfQd fMtkbuj] Hkkjrh; dykdkjk d lk{kkRdkj] dyk ohfFkdk o in'kfu;k d lj{kdk d lk{kkRdkj

¼;½ lhek

dk; o lhek dk /;ku e j[kr g, doy fMftVy ifVx {k= e jk"Vh; o vUrjk"Vh; Lrj ij ijLÑr Hkkjrh; dykdkjk dh Ñfr;k dk v/;;u o dN egRoi.k lk¶Vo;l e miyC/k dj.k&midj.kk ¼Tools½ dk i;kx fd;k tk;xkA

fu"d"k

voykdu] iy[ku vkj MkVk dk fo'y"k.kkRed v/;;u ejh vulU/kku dk; d fu"d"kk d fy, e[; L=kr gkxkA

orleku ifjn`'; esa v/;;u dh mi;ksfxrk

,d dykdkj dk mí'; fMftVy ifVx d {k= e viu }kjk fd; x; dk;Z l viuh igpku fodflr dju d fy, gkrk gA bl vk'k; gr ml miyC/k rduhdk o fofo/k dk;k dk v/;;u vko';d gA fMftVy ifVx {k= dk vk/kfud ;x e dyk txr e fo'o iVy ij ,d mfpr LFkku g vr% dEl;V'kuy nf"Vdk.k d vk/kkj ij vk/kfud rduhd d i;kx d ek/;e l fo'o d le{k l turk iLrr djuk gh ,d dykdkj dh dykRedrk dk ifjp; gA vr% ej 'kk/k dk; }kjk igyh ckj Hkkjrh; fMftVy ifVx d le) [ktku] rduhd d i;kx o Hkfo"; dh lHkkoukvk d ifji{; e iLrr dju dk ,d foue i;kl fd;k tk,xkA ftll fd bl i)fr dk i;kx ledkyhu dykdkj i.k :i l dj ldA

Hkkjrh; fMftVy isfVaXl & ,d dEI;wVs'kuy nf"Vdks.k
(Indian Digital Paintings - A Computational Approach)

fo"k; lwph

fo"k; izos'k &

- ijEijkxr fp=dyk ,o mudh rduhd o fo/kk,¡
- dEI;wVj dk bfrgkl
- dEI;wVj dk yfyr dyk e sa i;ksx
- Hkkjr e sa fMftVy isfVax dh ijkrurk
- ledkyhu fp=dyk e sa fMftVy fp=dyk dk egRo

izFke v/;k; & yfyr dyk ,o a dEI;wVj

1-1 yfyr dyk e sa dEI;wVj foKku

1-2 fp=dyk midj.k d s :i e sa dEI;wVj

1-3 fMftVy isfVax d s {ks= e sa dykRed ijEijk dh fujrjrk

f}rh; v/;k; & fp=dyk e sa dEI;wVj nf"Vdks.k dk v/;;u

2-1 fp=dyk e sa fMftVy vo/kkj.kk dk fodkl

2-2 fMftVy isfVax dh iÑfr

2-3 fMftVy dyk e sa isfVax dk LFkku

2-4 fMftVy isfVax dh jpuk,¡ ,o fo/kk,¡

2-5 dEI;wVj tfur fp=k dk v/;;u

r`rh; v/;k; & fp=dkjh e sa fMftVy rduhd&,d iz;ksxkRed ijh{k.k

3-1 dEI;wVj gkMZo;j

3-2 dEI;wVj lk¶Vo;j

3-3 dEI;wVj lk¶Vo;j e sa miyC/k dj.kk&midj.kk dk iz;ksx

3-4 ikjEifjd fp=dyk e sa dEI;wVj rduhd dk iz;ksx

3-5 fMftVy fp=dyk e sa fofHkUu fo/kkvk sa dk iz;ksx

3-6 fMftVy isfVax d s fu"iknu dh rduhd

prqFkZ v/;k; & प्रकाश अथवा रंग व ध्वनि & ,d fMftVy nf"Vdks.k

4-1 izdk"k vFkok jax o /ofu lEcU/k & ,d vo/kkj.kk dk fodkl

4-2 fp=dyk e sa izdk"k vFkok jax o /ofu dk iz;ksx

4-3 izdk"k vFkok jax o /ofu dk lglEcU/k

ipe v/;k; & n';kRed iLrfrdj.k

fMftVy ifVx cuku e i;Dr rduhdk] dj.k&midj.kk d i;kx dk i;kxkRed :i e n';kRed iLrfrdj.k

"k"Be v/;k; & vk/kfud fMftVy ifVx dh jktxkj ijd lEHkkouk,

6-1 fofHkUu {k=k e dfj;j d fodYi

6-2 fMftVy vkV dk ckt kjhdj.k

6-3 b&yfux d {k= e fMftVy ifVx dh mi;kfxrk

mi lgkj

ifjf'k"V

- lUnHk xUFk lph & iLrd] 'kk/k i=] if=dk,] dVykx] oclkbV] Cykx l] 'kk/k fun'k ,o fopkj&foe'k]
- fp= lph
- dyk 'kCn dk'k

lUnHk xUFk lph

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